AMENDMENTS TO THE DRAWINGS

The attached sheet of drawing include changes to Fig 3. The sheet, which includes

Fig. 3, replaces the original sheet including Fig. 3.

Attachment: Replacement Sheet: 1 (One)

REMARKS

In view of the cancellation of claim 4, claims 1-3, 5-6 are all the claims pending in the application.

The Specification is objected to.

The Drawings are objected to.

Claims 1-3 are objected to because of various informalities.

Claim 5 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Claims 1-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishida (JP 2000-029534) in view of Yamamoto et al. (JP 10-14921).

The Applicants traces the rejections and request reconsideration.

Specification

The Examiner has objected to the Specification for informalities. The informalities noted by the Examiner have been corrected. Thus, withdrawal of this objection is respectfully requested.

The title has been amended to more correctly reflect the subject matter of the invention.

The Applicants respectfully submit a new Abstract to overcome the rejections thereto

Drawings

The Applicants respectfully submit a revised version of Fig. 3 duly marked "Prior Art" to

overcome the objections noted.

Claim Objections

Objection of Claims 1-3 are for informalities

The Examiner has objected to claim 1-3 due to various informalities. The informalities

noted by the Examiner have been corrected. Thus, withdrawal of the objection is respectfully

requested.

Claim Rejections Under 35 U.S.C. 112

Rejection of Claim 5 is, first paragraph,

The examiner contends that the Specification does not describe how to determine an

order of N which is necessary for converting the command to be L-rank differentiable. Further,

the Examiner also contends that the specification does state at page 11, lines 13-15 that for 2-

rank differentiability, N should be 2 or more, however the following paragraph then states that

N=2 and L=4 is also plausible.

The Applicants respectfully disagree with it (although claim 5 is now amended to cancel

the subjected expression). According to page 11, lines 13-17 of the specification, it is described

that "For example, in the case in which a command given previously is 2-rank differentiable, it is

sufficient that the filter order N is two or more. In this case, accordingly, N=2 and L=4 can be

implemented." Namely, the specification merely describes an example of N=2 and L=4 in case

where a command is 2-rank (order) differentiable. Of course, the specification implies an

example of N = 3, 4 or 5 (2 or more) and L = 4 in case where a command is 2-rank (order)

differentiable. Furthermore, "an order of N of the N-order filter…L-rank differentiable" is

clearly supported by page 11 of the specification.

Rejection of Claims 1-5 are, second paragraph.

The Applicants respectfully replace the term "1-rank differential" with the term "1-

order differential." The rejection should now be withdrawn.

Claim Rejections Under 35 U.S.C. 103
Rejection of Claims 1-6 are as being unpatentable over Nishida in view of Yamamoto et al.

The Applicants respectfully amend claims 1 and 2 to recite that N is equal to or greater

than a value defined by subtracting an order of the command from an order of denominator of a

transfer function of an approximation model that represents the controlled object with Laplace

operator

The Applicants respectfully submit that the combined teachings of Yamamoto and

Nishida fail to suggest the present invention, including the claimed feature. "N is equal to or

greater than a value defined by subtracting an order of the command from an order of

denominator of a transfer function of an approximation model that represents the controlled

object with Laplace operator" as required by claims 1 and 2. A skilled artisan would not have

found it obvious to make the present invention, as recited in claims 1 and 2 from the suggestions

of Nishida and Yamamoto.

Furthermore, cited references Yamamoto and Nishida fail to disclose or suggest the

claimed feature "L is an order of denominator of a transfer function of an approximation model

that represents the controlled object with Laplace operator, and N is equal to or greater than a

value defined by subtracting an order of the command from L" as required by amended claim 3.

Still further, cited references Yamamoto and Nishida fail to disclose or suggest the claimed feature "an N-order filter processing section configured to carry out an N-order filter processing for the command and calculate values from a 1-order differential value to an (N-1)-order differential value of the command subjected to the filter processing" as required by claims 1 and 2 or "an N-order filter processing section configured to carry out an N-order filter processing for the command and calculate values from a 1-order differential value to an L-order differential value of the command subjected to the filter processing" as required by claim 3.

The Applicants respectfully submit that the Examiner is believed to be incorrect in finding Figure 13, a rectifier 201 of Nishida to be corresponding to the claimed N-order filter, we disagree with the examiner's position.

Cited reference Nishida discloses employing a rectifier 201' to smooth a command and to suppress oscillation in high-order complementary operation. Moreover, Nishida discloses employing a rectifier 201' to avoid noises such as calculation errors in high-order complementary unit. Also, in Nishida, the complementary calculation performed by the high-order complementary unit can prevent a targeted value from changing in a stepped manner.

On the other hand, in the present invention, an N-order filter processing section is used to calculate values from a 1-order differential value to an (N-1)-order (or L-order) differential value of the command. By calculating values from the 1-order differential value to the (N-1)-order (or L-order) differential value, a position command Xref, a speed command Vref, and a torque command Tref, which are suitable for introducing variable XL, are thus calculated.

Accordingly, the claimed N-order filter processing section is completely different from the rectifier 201' disclosed by Nishida.

Claims 5 and 6 are dependent on claims 1-3 and are allowable at least for the same reasons.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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